Tables

TABLE 5.10-1
MONITORED NATURAL ATTENUATION QUARTERLY MONITORING PROGRAM
IAOC F2 - FORMER 40-ACRE TANKFIELD SEPARATOR AND IAOC F3 - 40-ACRE TANKFIELD UNDEVELOPED PROPERTY

EXXONMOBIL ENVIRONMENTAL AND PROPERTY SOLUTIONS / BAYWAY REFINERY COMPLEX
LINDEN, NEW JERSEY

		Analytical Parameters	
Investigative Area of Concern Designation	**Designation**	**Total Arsenic**	**Benzene**
F1 - 40 Acre Tankfield	GMW-665		X
F2 - Former 40 Acre Tankfield Separator	GMW-109	X	X
	GMW-142		X
	GMW-185	X	X
	GMW-253	X	
	GMW-298		X
	GMW-299		X
	GMW-300		X
F3 - 40 Acre Tankfield Undeveloped Property	FA-1S	X	X

All samples are collected on a quarterly basis.

TABLE 5.10-2
GROUND WATER SAMPLING ANALYTICAL RESULTS
IAOC F2 - FORMER 40-ACRE TANKFIELD SEPARATOR AND IAOC F3 - 40-ACRE TANKFIELD UNDEVELOPED PROPERTY

EXXONMOBIL ENVIRONMENTAL AND PROPERTY SOLUTIONS COMPANY / BAYWAY REFINERY COMPLEX
LINDEN, NEW JERSEY

SEPTEMBER 3, 2020 THROUGH MAY 24, 2022

Location ID		NJ CLASS II-A GWRS	FA-1S							
Date			09/03/2020	10/07/2020	02/24/2021	06/23/2021	08/27/2021	10/29/2021	02/23/2022	05/23/2022
Chemical	Units									
Arsenic	µg/L	3	11	7.4	29	7.1	11	9	13	9.8
Benzene	µg/L	1	<0.20	<0.20	<0.20	<0.30	<0.30	<0.30	<0.30	<0.30

Location ID		NJ CLASS II-A GWRS	GMW-109							
Date			09/03/2020	10/07/2020	02/24/2021	06/15/2021	08/27/2021	10/28/2021	02/22/2022	05/20/2022
Chemical	Units									
Arsenic	µg/L	3	<0.68	<0.68	0.86 J	<0.68	<0.68	<0.68	<0.68	<0.68
Benzene	µg/L	1	<0.20	<0.20	<0.20	<0.30	<0.30	<0.30	<0.30	<0.30

Location ID		NJ CLASS II-A GWRS	GMW-142							
Date			09/03/2020	10/07/2020	02/24/2021	06/18/2021	08/26/2021	10/28/2021	02/22/2022	05/20/2022
Chemical	Units									
Arsenic	µg/L	3	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	µg/L	1	<4.0	<0.20	<0.20	<0.30	<0.30	<0.30	<0.30	<0.30

Location ID		NJ CLASS II-A GWRS	GMW-185							
Date			09/03/2020	10/07/2020	02/24/2021	06/18/2021	08/30/2021	10/27/2021	02/22/2022	05/20/2022
Chemical	Units									
Arsenic	µg/L	3	0.94 J	0.73 J	1.3 J	<0.68	<0.68	<0.68	<0.68	0.88 J
Benzene	µg/L	1	<0.20	<0.20	<0.20	<0.30	<0.30	<0.30	<0.30	<0.30

TABLE 5.10-2
GROUND WATER SAMPLING ANALYTICAL RESULTS
IAOC F2 - FORMER 40-ACRE TANKFIELD SEPARATOR AND IAOC F3 - 40-ACRE TANKFIELD UNDEVELOPED PROPERTY

EXXONMOBIL ENVIRONMENTAL AND PROPERTY SOLUTIONS COMPANY / BAYWAY REFINERY COMPLEX
LINDEN, NEW JERSEY

SEPTEMBER 3, 2020 THROUGH MAY 24, 2022

Location ID		NJ CLASS II-A GWRS	GMW-253							
Date			09/03/2020	10/08/2020	02/24/2021	06/18/2021	08/30/2021	10/28/2021	02/23/2022	05/24/2022
Chemical	Units									
Arsenic	µg/L	3	3.0	1.9 J	1.8 J	1.6 J	2.4	2.4	2.6	5.9
Benzene	µg/L	1	NA	NA	NA	NA	NA	NA	NA	NA

Location ID		NJ CLASS II-A GWRS	GMW-298							
Date			09/03/2020	10/08/2020	02/24/2021	06/08/2021	08/26/2021	10/28/2021	02/22/2022	05/19/2022
Chemical	Units									
Arsenic	µg/L	3	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	µg/L	1	<2.0	<2.0	<0.20	<0.30	<0.30	<0.30	<0.30	<0.30

Location ID		NJ CLASS II-A GWRS	GMW-299							
Date			09/03/2020	10/06/2020	02/24/2021	06/08/2021	08/27/2021	10/28/2021	02/23/2022	05/19/2022
Chemical	Units									
Arsenic	µg/L	3	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	µg/L	1	<2.0	<0.20	<0.20	<0.30	<0.30	<0.30	<0.30	<0.30

Location ID		NJ CLASS II-A GWRS	GMW-300							
Date			09/04/2020	10/06/2020	02/24/2021	06/10/2021	08/27/2021	10/28/2021	02/23/2022	05/19/2022
Chemical	Units									
Arsenic	µg/L	3	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	µg/L	1	8.2 J	<10	2.3	3.1 J H	1.2	0.68 J	1.1	1.3

TABLE 5.10-2
GROUND WATER SAMPLING ANALYTICAL RESULTS
IAOC F2 - FORMER 40-ACRE TANKFIELD SEPARATOR AND IAOC F3 - 40-ACRE TANKFIELD UNDEVELOPED PROPERTY

EXXONMOBIL ENVIRONMENTAL AND PROPERTY SOLUTIONS COMPANY / BAYWAY REFINERY COMPLEX
LINDEN, NEW JERSEY

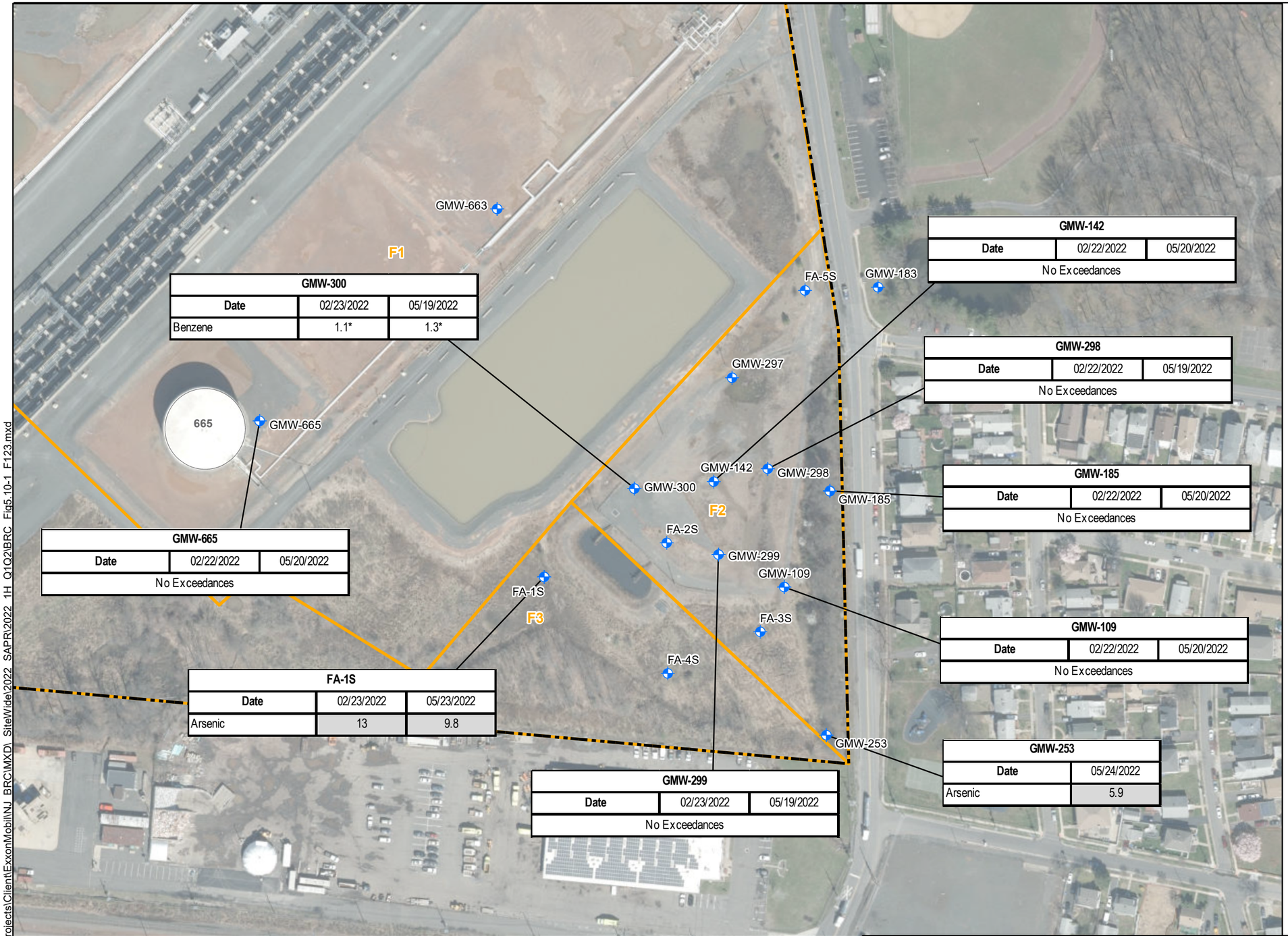
SEPTEMBER 3, 2020 THROUGH MAY 24, 2022

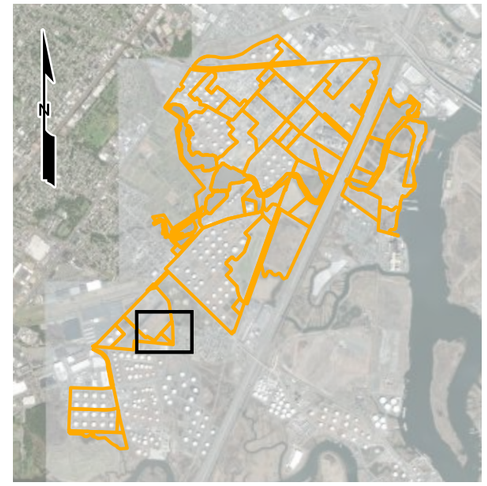
Location ID		NJ CLASS II-A GWRS	GMW-665							
Date			09/03/2020	10/07/2020	02/24/2021	06/10/2021	08/27/2021	10/29/2021	02/22/2022	05/20/2022
Chemical	Units									
Arsenic	µg/L	3	NA	NA	NA	NA	NA	NA	<0.30	<0.30
Benzene	µg/L	1	<0.20	<0.20	<0.20	<0.30	<0.30	<0.30	NA	NA

Notes:

GWRS	New Jersey Department of Environmental Protection Class II-A Ground Water Remediation Standards
µg/L	Micrograms per liter
NA	Not analyzed
<5.0	Not detected at or above the method detection limit, method detection limit included.
J	Indicates an estimated value
H	Sample was prepped or analyzed beyond the specified holding time
Gray Shading	Indicates a concentration above the NJ Class II-A GWRS

Figures





LEGEND

- MONITORING WELL
- TANK
- PROPERTY BOUNDARY
- F1 IAOC BOUNDARY

Chemical	NJDEP CLASS II-A GWQS
Arsenic	3
Benzene	1

REFERENCES

1. MAP AND WATER BODY LIMITS DERIVED FROM FIGURE ENTITLED "WETLAND DELINEATION SURVEY, BAYWAY REFINERY, CITY OF LINDEN, UNION COUNTY, NEW JERSEY", PREPARED BY KELLER & KIRKPATRICK INC., DATED 9-3-15, LAST UPDATED 9-21-16.
2. BASE MAP TOPOGRAPHIC FEATURES TAKEN FROM A MAP PREPARED BY ATLANTIS AERIAL SURVEY CO., INC. FROM PHOTOGRAPHY DATED OCTOBER 3, 2003.
   HORIZONTAL DATUM: NAVD 1983
   VERTICAL DATUM: NGVD 1929
   DISTANCE MEASUREMENTS ARE EXPRESSED IN U.S. FEET
3. PROPERTY BOUNDARY DERIVED FROM METES AND BOUNDS TAKEN FROM SURVEY, PREPARED BY KELLER & KIRKPATRICK INC., DATED 3-1-93, LAST UPDATED 4-5-93.

NOTES

1. IAOC BOUNDARY DESIGNATION LINES ABUTTING THE PROPERTY BOUNDARY SHALL BE CONSIDERED SYNONYMOUS WITH THE PROPERTY BOUNDARY.
2. GWQS = NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION CLASS II-A GROUND WATER QUALITY STANDARDS.
3. ALL CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER (µg/L).
4. ONLY ANALYTES THAT EXCEEDED THE NJDEP CLASS II-A GWRS DURING THE REPORTING PERIOD WITH THE EXCEPTION OF ALUMINUM, CHLORIDE, IRON, MANGANESE, AND SODIUM ARE INCLUDED ON THIS FIGURE.
5. * = AS PER THE JULY 2021 NJDEP TECHNICAL GUIDANCE FOR THE ATTAINMENT OF REMEDIATION STANDARDS AND SITE-SPECIFIC CRITERIA (VER 2.0), SECTION 7.3.4, "ROUNDING OF SINGLE POINT COMPLIANCE DATA IS ACCEPTABLE. ROUNDING SHOULD BE CONDUCTED TO THE NUMBER OF SIGNIFICANT FIGURES EXPRESSED IN THE APPLICABLE REMEDIATION STANDARD." THEREFORE, THE BENZENE RESULT IN GMW-300 OF 1.1 AND 1.3 µG/L ROUNDS DOWN TO THE GWRS OF 1 µG/L.

150 75 0 150 Feet

1 inch = 150 feet

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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FORMER 40-ACRE TANKFIELD SEPARATOR AND 40-ACRE UNDEVELOPED PROPERTY GROUND WATER ANALYTICAL RESULTS MAP

BAYWAY REFINERY COMPLEX
LINDEN, NEW JERSEY
SEMIANNUAL PROGRESS REPORT JANUARY THROUGH JUNE 2022

FIGURE
5.10-1

\\azrgisstorp01\GIS Projects\Client\ExxonMobil\NJ BRC\MXD\ SiteWide\2022 SAPR\2022 1H Q1Q2\BRC_Fig5.10-1_F123.mxd